



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,594	05/17/2004	Jia-Bin Huang	REAP0063USA	3593
27765	7590	07/18/2007		
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER SINKANTARAKORN, PAWARIS	
			ART UNIT	PAPER NUMBER
			2616	
			NOTIFICATION DATE	DELIVERY MODE
			07/18/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Office Action Summary

Application No.

10/709,594

Applicant(s)

HUANG, JIA-BIN

Examiner

Pao Sinkantarakorn

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Kataria (US 7,177,279).

Regarding claims 1 and 11, Kataria discloses an apparatus for improving the management of received data packets of a host system that comprises a plurality of data buffers and a plurality of descriptors that corresponds to a subset of the plurality of data buffers to manage the received data packets (see column 3 lines 33-44, reassembly buffers), the apparatus comprising:

a receiver for receiving a data packet (see column 3 line 33, cell admission interface);

a first storage unit for storing the data packet from the receiver (see column 3 lines 33-37, reassembly buffers store the received cells directed from the cell admission interface);

a counter for monitoring the number of descriptors in a first state to produce a count value (see column 5 lines 50-64, a counter decrements for each cell enqueued in the corresponding assembly buffer);

a second storage unit for storing a threshold value (see column 5 lines 50-64, the minimum boundary of the counter is set to the provisioned minimum buffer size for the VC); and

a comparator for comparing the count value with the threshold value and producing a comparison signal (see column 5 line 65 – column 6 line 16, the counter value is being compared to a minimum boundary; if the compared value is negative, a notification is sent to notify that no new packets are admitted to that one of reassembly buffers);

wherein the apparatus issues a first event to the host system according to the comparison signal (see column 5 lines 10-18, column 6 lines 11-16 and lines 47-60, buffer controller generates signals to cell admission interface to flush reassembly buffers and drop all subsequent cells);

regarding claim 4, the first event indicates that data buffers corresponding to the descriptors should be cleared (see column 5 lines 10-18, column 6 lines 11-16 and lines 47-60);

regarding claims 5 and 12, the first state is an unavailable state (see column 5 lines 50-64);

regarding claims 6 and 13, the threshold value is programmable (see column 5 lines 50-64);

regarding claims 7 and 14, the first state is a free state (see column 5 lines 50-641;

regarding claims 8 and 15, the apparatus issues a second event when the data packet is an ok packet (see column 4 lines 56-60);

regarding claims 9 and 16, the data buffers corresponding to the descriptors are cleared when the first event or the second event is issued (see column 5 lines 10-18, column 6 lines 11-16 and lines 47-60);

regarding claim 10, the apparatus is a wireless network device (see column 1 line 15).;

regarding claim 17, the method further comprises issuing a third event when transferring an error packet (see column 4 lines 46-53).

Regarding claim 18, Kataria discloses a method for improving the management of data packets received from a network by a host system that comprises a plurality of data buffers and that utilizes a plurality of descriptors that corresponds to a subset of the plurality of data buffers to manage the data packets received from the network(see column 3 lines 33-44, reassembly buffers), the method comprising:

receiving a data packet from the network(see column 3 line 33, cell admission interface);

transferring the data packet into at least one of the data buffers (see column 3 lines 33-37, reassembly buffers store the received cells directed from the cell admission interface);

monitoring the number of descriptors that will have their state changed when the data packet is transferred (see column 5 lines 50-64, a counter decrements for each cell enqueued in the corresponding assembly buffer);

calculating a count value according to the number of descriptors that will have had their state changed by the data packet being transferred (see column 5 lines 50-64, a counter decrements for each cell enqueued in the corresponding assembly buffer);
and

comparing the count value with the threshold value, and triggering a first event to the host system when the count value reaches the threshold value (see column 5 line 65 – column 6 line 16, the counter value is being compared to a minimum boundary; if the compared value is negative, a notification is sent to notify that no new packets are admitted to that one of reassembly buffers);

wherein the first event notifies the host system to clear the data buffers corresponding to the descriptors (see column 5 lines 10-18, column 6 lines 11-16 and lines 47-60, buffer controller generates signals to cell admission interface to flush reassembly buffers and drop all subsequent cells).

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataria in view of Tsujimoto (US 6,700,887).

Regarding claims 2 and 3, Kataria discloses all the subject matter of the claimed invention except the apparatus comprising a Receive DMA (Direct Memory Address) for transferring the data packet from the first storage unit into the data buffers. However, the invention of Tsujimoto from the same or similar fields of endeavor discloses a packet transfer apparatus comprising a DMA controller for controlling a DMA operation between the memory and the buffer (see abstract).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement a packet transfer apparatus comprising a DMA controller for controlling a DMA operation between the memory and the buffer as taught by Tsujimoto into the buffer management apparatus of Kataria.

The motivation for implementing a packet transfer apparatus comprising a DMA controller for controlling a DMA operation between the memory and the buffer is that it increases the efficiency of the buffer management apparatus.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lambrecht (US 2003/0223444), Wiemann et al. (US 2007/0091799), and Robotham et al. (US 2005/0163139) are cited to show systems/methods considered pertinent to the claimed invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is 571-270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS

A handwritten signature in black ink, appearing to be "Pan" followed by a stylized flourish.A handwritten signature in black ink, appearing to be "Ricky Q. Ngo".

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER